

CLAIMS

1. A method of channel resource allocation in a communications system, the method characterized in that the communications system uses one or more switched channels, switching between rates or channels of different characteristics and that one or more data transmissions to or from a data provider are investigated or sniffed for information related to data object size.
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2. The method according to claim 1 characterized in that radio resource allocation is based upon the information related to data object size.
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3. The method according to claim 2 characterized in that resource allocation comprises selection of one or more channels or channel characteristics.
4. The method according to any of claims 1-3 characterized in that the one or more data transmissions are sniffed or investigated in application-level data packets.
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5. The method according to any of claims 1-4 characterized in that the one or more data transmissions are investigated or sniffed in uplink direction.
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6. The method according to any of claims 1-4 characterized in that the one or more data transmissions are investigated or sniffed in downlink direction.
7. The method according to any of claims 1-6 characterized in that radio resource management allocates resources based upon prediction from the information related to data object size.
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8. The method according to claim 7 characterized in that resource allocation comprises selection of one or more channels or channel characteristics.

9. The method according to any of claims 1-8 characterized in that the channel characteristics include at least one of

- data rate,
- dedicated or shared usage,
- scheduling,
- modulation,
- spreading code spreading factor, and
- transmission power.

10. The method according to any of claims 1-9 characterized in that user or session individual data from the data provider is cached or stored prior to being transmitted over a switched channel.

11. The method according to any of claims 1-10 characterized in that prediction for resource allocation of a switched channel is based on content of cached or stored data.

12. The method according to claim 10 or 11 characterized in that the data is cached or stored in association with radio resource management.

13. The method according to any of claims 1-12 characterized in that data from the data provider is positively or negatively acknowledged towards the data provider and forwarded for transmission over a switched channel.

14. The method according to any of claims 1-13 characterized in that resource allocation prediction of a switched channel is based on amount of acknowledged data.

5 15. The method according to any of claims 1-14 characterized in that resource allocation prediction is performed for a connection to be established.

10 16. The method according to any of claims 1-14 characterized in that resource allocation prediction is performed for an established connection.

17. The method according to any of claims 1-16 characterized in that it reduces at least one of delay and latency, as perceived by a data receiver at the destination.

15 18. The method according to any of claims 1-16 characterized in that it reduces at least one of delay and latency, as perceived by a data provider.

20 19. The method according to any of claims 1-16 characterized in that it reduces at least one of delay and latency, as perceived by a congestion control algorithm.

25 20. The method according to any of claims 1-19 characterized in that individual user need of channel resources is predicted from the object size related information.

21. The method according to any of claims 1-19 characterized in that future need of channel resources is retrieved from the object size related information before the need appears.

22. The method according to any of claims 1-19 characterized in that the channel resources are channel resources required to transmit data packets of the object of said data object size.

5 23. An element for channel resource allocation in a communications system using switched channels, switching between rates or channels of different characteristics, the element characterized by one or more processing entities for investigating or sniffing one or more data
10 transmissions to or from a data provider, for information related to data object size.

24. The element according to claim 23 characterized by circuitry for transferring the information related to data object size to radio resource management.

15 25. The element according to claim 23 or 24 characterized by one or more processing entities for allocating radio resources based upon the information related to data object size.

20 26. The element according to claim 25 characterized in that resource allocation comprises selection of one or more channels or channel characteristics.

25 27. The element according to any of claims 23-26 characterized by a radio resource management entity for resource allocation based upon prediction from the information related to data object size.

28. The element according to any of claims 23-27 characterized by one or more processing entities for sniffing or investigating data transmissions in application-level data packets.

29. The element according to any of claims 23-28 characterized in that the one or more data transmissions are investigated or sniffed in uplink direction.

5 30. The element according to any of claims 23-28 characterized in that the one or more data transmissions are investigated or sniffed in downlink direction.

10 31. The element according to any of claims 23-30 characterized in that the channel characteristics include at least one of

- data rate,
- dedicated or shared usage,
- scheduling,
- 15 - modulation,
- spreading code spreading factor, and
- transmission power.

32. The element according to any of claims 23-31 characterized by one or more memory or storage devices for caching or storing user or session individual data from the data provider prior to being transmitted over the switched channel.

25 33. The element according to any of claims 23-32 characterized by one or more processing entities for resource allocation prediction of a switched channel based on content of cached or stored data.

34. The element according to claim 32 or 33 characterized by one or more memory or storage devices

being arranged in association with radio resource management.

35. The element according to claim 32 or 33 characterized by one or more memory or storage devices
5 being arranged in association with the one or more processing entities for investigating or sniffing one or more data requests.

36. The element according to any of claims 23-35 characterized by one or more processing entities for positively or negatively acknowledging data from the data provider to be forwarded for transmission over a switched channel.
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37. The element according to any of claims 23-36 characterized in that resource allocation prediction of a switched channel is based on amount of acknowledged data.
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38. The element according to any of claims 23-37 characterized in that resource allocation prediction is performed for a connection to be established.

20 39. The element according to any of claims 23-37 characterized in that resource allocation prediction is performed for an established connection.

40. The element according to any of claims 23-39 characterized in that it reduces at least
25 one of delay and latency, as perceived at a destination data receiver.

41. The element according to any of claims 23-39 characterized in that it reduces at least one of delay and latency, as perceived at a data provider.

42. The element according to any of claims 23-39 characterized in that it reduces at least one of delay and latency, as perceived by a congestion control algorithm.

5 43. The element according to any of claims 23-42 characterized in that the element is included in or connected to user equipment.

10 44. The element according to any of claims 23-42 characterized in that the element is connected to or included in a radio network controller.

45. The element according to any of claims 23-44 characterized by one or more processing entities for predicting individual user need of channel resources from the object size related information.

15 46. The element according to any of claims 23-44 characterized by one or more processing entities for retrieving future need of channel resources from the object size related information before the need appears.

20 47. The element according to any of claims 23-44 characterized in that the channel resources are channel resources required to transmit data packets of the object of said data object size.

25 48. A radio communications system characterized by means for carrying out the method in any of claims 1-22.

49. A radio communications system characterized by a plurality of elements according to any of claims 23-47.